

# Mineral Industry Surveys

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## NICKEL IN JUNE 2006

Reported domestic nickel consumption in June, on a daily average basis, was 4% greater than the revised total for May, according to the U.S. Geological Survey. Daily average use of nickel metal and ferronickel for stainless and heat resisting steels was 2% lower than the corresponding average for May. Use of nickel metal to make superalloys (such as INCONEL 718 and Waspaloy) decreased by 22% from May levels, on a daily average basis. However, the decrease in the superalloy category was more than offset by a 29% increase in the “Other

nickel & nickel alloys” category. Sales to plating companies averaged 29.5 metric tons per day (t/d), about 3% greater than the May figure of 28.7 t/d. The United States imported 69,800 metric tons (t) of primary nickel between January 1 and May 31, about 10% more than the 63,200 t for the corresponding period of 2005. Trade data for June will appear in a subsequent report. Percentages reported in this paragraph are based on data concealed to avoid revealing individual company proprietary data.

TABLE 1  
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE<sup>1</sup>

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
2005:					
June	5,440	541	44	6,020	34,400
July	4,590	378	38	5,010	39,400
August	5,060	437	42	5,540	45,000
September	5,190	658	44	5,900	50,800
October	5,230	708	44	5,980	56,800
November	5,220	585	57	5,860	62,700
December	4,750	619	52	5,420	68,100
January-December	61,100	6,450	544	68,100	XX
2006:					
January	6,760	831	71	7,660	7,660
February	6,390	842	66	7,300	15,000
March	6,400	776	68	7,250	22,200
April	6,530	788	59	7,380	29,600
May	6,530 <sup>r</sup>	850	59	7,440 <sup>r</sup>	37,000 <sup>r</sup>
June:					
Steel:					
Stainless and heat resisting	2,340	758	W	3,100	20,000
Alloy (excludes stainless)	642	--	--	642	2,370
Superalloys	890	--	W	890	6,850
Copper-nickel alloys	W	--	--	W	W
Electric, magnetic, and expansion alloys	16	--	--	16	88
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	875	--	--	875	5,100
Chemical and chemical uses	W	--	--	W	W
Other uses	1,890	--	59	1,950	10,100
Total reported	6,660 <sup>2</sup>	758	59	7,470	44,500
Total all companies (calc) <sup>3</sup>	XX	XX	XX	14,700	87,400
2006: January-June	39,300	4,850	383	44,500	XX
2005: January-June	31,100	3,070	268	34,400	XX

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Of consumption, 4,420 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

<sup>3</sup>Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (50.94%) to apparent primary consumption for 2004.

TABLE 2  
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,  
BY FORM AND USE<sup>1,2</sup>

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
2005:				
June	1,860	310	132	2,300
July	1,610	283	141	2,030
August	1,680	276	139	2,100
September	1,680	273	153	2,110
October	1,660	279	147	2,090
November	1,720	307	147	2,170
December	2,050	300	146	2,500
2006:				
January	1,830	300	153	2,280
February	1,960	354	154	2,470
March	1,880	409	154	2,440
April	2,100	332	170	2,610
May <sup>f</sup>	2,400	292	154	2,850
June:				
Steel (stainless, heat resisting and alloy)	714	294	(3)	1,010
Nonferrous alloys <sup>4</sup>	1,250	W	(3)	1,250
Foundry (cast irons)	(3)	W	--	(3)
Chemical (catalysts, ceramics, plating salt, etc.) and unspecified uses	130	W	158	288
Total	2,090	294	158	2,540

<sup>f</sup>Revised. W Withheld to avoid disclosing company proprietary data. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustments.

<sup>3</sup>Included in the "Chemical and unspecified uses" category.

<sup>4</sup>Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3  
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE<sup>1</sup>

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap	Ferrous scrap <sup>2</sup>	Nonferrous scrap <sup>3</sup>	Total scrap
2005:						
June	4,520	698	5,220	2,810	115	2,930
July	4,120	658	4,780	2,740	102	2,840
August	4,360	748	5,110	2,630	113	2,740
September	4,490	709	5,200	2,800	99	2,900
October	5,000	638	5,640	3,010	110	3,120
November	5,520	611	6,130	2,630	98	2,730
December	4,530	593	5,130	2,470	89	2,560
January-December	56,200	8,530 <sup>r</sup>	64,700 <sup>r</sup>	XX	XX	XX
2006:						
January	3,710	708	4,420	2,600	100	2,700
February	4,130	654	4,790	2,850	92	2,950
March	4,290	800	5,090	2,930	93	3,030
April	5,250	706	5,960	2,660	98	2,760
May	4,340	657	4,990	2,760	103	2,860
June	3,840	851	4,690	3,090	93	3,180
Total	25,600	4,380	29,900	XX	XX	XX

<sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

<sup>3</sup>Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY<sup>1</sup>

(Metric tons, nickel content)<sup>2</sup>

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total <sup>3</sup>	Total year to date <sup>4</sup>	Wrought nickel
2005:										
May	9,140	866	1,260	257	595	831	407	13,400	70,300	75
June	9,010	335	2,470	--	583	776	308	13,500	83,800	119
July	9,050	543	1,700	--	633	624	177	12,700	96,500	89
August	10,500	772	1,370	--	447	402	295	13,800	110,000	116
September	9,410	500	1,890	--	645	443	294	13,200	123,000	94
October	8,410	794	728	17	719	505	286	11,500	135,000	63
November	9,690	714	1,240	107	689	581	277	13,300	148,000	94
December	7,310	423	877	110	608	731	291	10,400	159,000	128
January-December	110,000	8,120	19,300	1,540	7,170	8,340	3,620	159,000	XX	1,060
2006:										
January	11,800	971	864	80	651	717	307	15,400	15,400	76
February	9,740	575	1,310	177	379	771	435	13,400	28,800	74
March	12,300	695	1,530	67	567	817	369	16,400	45,200	124
April	12,900	870	1,300	121	621	1,100	287	17,200	62,400	83
May:										
Australia	1,170	--	--	--	10	--	--	1,180	6,440	6
Brazil	3	--	--	--	10	--	--	13	885	--
Canada	5,850	377	--	107	141	1,020	20	7,520	32,600	18
China	135	2	--	--	--	--	9	146	490	2
Colombia	--	--	239	--	--	2	(5)	241	1,170	--
Dominican Republic	--	--	776	--	--	1	--	777	4,120	--
Finland	416	--	--	--	--	--	105	521	3,850	--
France	84	--	--	--	77	--	5	166	1,260	19
Germany	--	2	--	--	62	--	30	94	416	26
Japan	--	15	23	--	24	--	45	107	353	3
Mexico	--	--	--	--	20	239	3	262	1,190	--
New Caledonia	--	--	50	--	--	--	--	50	751	--
Norway	1,300	--	--	--	8	--	--	1,310	7,240	--
Russia	1,310	247	--	--	--	--	--	1,560	12,800	--
South Africa	--	40	--	--	--	--	--	40	357	--
Sweden	--	7	--	--	--	--	--	7	16	--
United Kingdom	28	38	--	--	167	--	1	234	1,300	20
Zimbabwe	120	--	--	--	--	--	--	120	588	--
Other	3	438 <sup>6</sup>	--	--	42	24	61	568	1,530	5
Total	10,400	1,170	1,090	107	561	1,280	279	14,900	77,300	99
2006: January-May	57,200	4,280	6,080	554	2,780	4,690	1,680	77,300	XX	456
2005: January-May	47,100	4,040	9,010	1,310	2,850	4,280	1,700	70,300	XX	356

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide, and hydroxide (65%).

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>May include revisions for prior months.

<sup>5</sup>Less than ½ unit.

<sup>6</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF NICKEL, BY COUNTRY<sup>1</sup>

(Metric tons, nickel content)<sup>2</sup>

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total <sup>3</sup>	Total year to date	Wrought nickel
May	84	373	11	2	777	3,230	452	4,930	27,400	129
June	168	176	9	2	523	2,950	460	4,280	31,700	214
July	173	113	4	3	814	3,020	335	4,460	36,200	105
August	91	84	--	1	1,270	3,350	506	5,300	41,500	156
September	147	85	4	5	1,150	3,950	315	5,650	47,100	105
October	134	148	1	8	1,040	3,450	281	5,070	52,200	94
November	70	116	(4)	5	1,000	3,640	271	5,100	57,300	79
December	80	87	21	33	1,080	4,200	430	5,940	63,200	99
January-December	1,190	1,910	72	234	11,700	43,800	4,230	63,200	XX	1,340
2006:										
January	105	107	15	12	1,200	4,100	387	5,930 <sup>r</sup>	5,930 <sup>r</sup>	158
February	125	87	8	8	860	2,950	370	4,410	10,300	106
March	87	92	5	69	942	2,700	631	4,520	14,900	114
April	189	111	22	8	975 <sup>r</sup>	2,540 <sup>r</sup>	386	4,230	19,100	151
May:										
Australia	--	(4)	--	--	23	17	--	40	158	3
Belgium	--	1	--	4	15	6	83	109	377	--
Canada	6	9	1	--	874	163	241	1,290	5,420	8
China	--	6	3	--	--	1,920	9	1,940	6,830	15
Finland	--	--	--	--	--	448	--	448	2,850	--
Germany	--	13	--	--	--	7	7	27	248	3
India	--	1	--	--	--	89	--	90	752	(4)
Italy	(4)	3	--	--	--	--	4	7	1,000	(4)
Japan	4	12	--	1	899	121	30	1,070	1,730	4
Korea, Republic of	--	2	--	--	48	98	6	154	903	30
Mexico	66	2	--	2	--	1	4	75	560	9
Netherlands	--	(4)	--	--	--	47	--	47	354	(4)
South Africa	--	--	--	1	--	--	6	7	30	--
Sweden	--	--	--	--	31	--	--	31	147	(4)
Taiwan	1	1	--	(4)	26	387	49	464	2,030	1
United Kingdom	--	11	--	--	149	4	12	176	517	2
Other	2	39	2	--	8	107	185	343	1,490	44
Total	79	100	6	8	2,070	3,420	636	6,320	25,400	119
2006: January-May	585	496	57	105	6,060	15,700	2,410	25,400	XX	647
2005: January-May	326	1,100	32	176	4,860	19,300	1,630	27,400	XX	484

<sup>r</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide, and hydroxide (65%).

<sup>3</sup>Excludes wrought nickel.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2005:									
May	310	355	662	324	43	148	152	1,990	9,000
June	437	422	558	260	20	159	237	2,090	11,100
July	325	342	603	275	29	64	194	1,830	12,900
August	447	360	462	242	20	172	293	2,000	14,900
September	644	314	500	241	34	176	156	2,070	17,000
October	491	333	480	241	20	170	466	2,200	19,200
November	551	214	629	262	16	286	198	2,160	21,300
December	429	295	552	221	35	183	243	1,960	23,300
January-December	4,840	3,740	6,580	3,150	350	1,850	2,790	23,300	XX
2006:									
January	557	379	478	354	6	204	137	2,120	2,120
February	434	292	550	276	2	198	335	2,090	4,200
March	1,040	398	516	302	41	335	204	2,840	7,040
April	400	427	472	224	25	251	127	1,930	8,960
May:									
Australia	156	--	7	--	--	(2)	--	163	1,420
Belgium	--	--	1	--	--	--	(2)	1	104
Canada	--	(2)	6	19	--	138	19	182	542
China	--	(2)	1	--	--	--	166	167	440
France	--	4	151	21	--	32	2	210	991
Germany	102	180	160	210	17	81	4	754	3,550
Italy	--	76	27	--	--	24	3	130	741
Japan	--	(2)	1	1	--	38	2	42	400
Mexico	--	--	--	--	--	3	1	4	18
Netherlands	--	2	(2)	--	--	--	4	6	40
South Africa	21	--	--	--	--	--	(2)	21	156
Sweden	--	19	228	7	--	49	--	303	1,300
United Kingdom	107	50	2	--	--	12	19	190	909
Other	18	7	12	4	(2)	5	46	92	611
Total	404	338	596	262	17	382	266	2,270	11,200
2006: January-May	2,830	1,830	2,610	1,420	90	1,370	1,070	11,200	XX
2005: January-May	1,510	1,460	2,800	1,410	176	637	1,010	9,000	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2005:									
May	1,200	1,170	158	378	3	191	268	3,370	15,800
June	726	1,220	108	275	5	216	272	2,820	18,600
July	1,130	1,060	170	409	5	211	293	3,280	21,900
August	1,010	1,310	114	301	9	285	360	3,390	25,300
September	565	1,250	92	398	26	237	286	2,850	28,100
October	731	1,100	125	393	27	417	401	3,190	31,300
November	628	1,430	104	335	5	419	288	3,210	34,500
December	762	1,510	65	282	3	243	267	3,130	37,700
January-December	10,400	15,000	1,440	4,200	119	3,000	3,580	37,700	XX
2006:									
January	472	1,460	67	358	35	645	251	3,280	3,280
February	411	1,650	91	321	19	277	336	3,110	6,390
March	1,040	1,800	63	473	33	281	360	4,050	10,400
April	955	1,730	71	371	30	245	246	3,650	14,100
May:									
Australia	--	--	1	(2)	--	2	(2)	3	39
Belgium	78	296	6	1	--	1	1	383	2,250
Canada	15	69	28	43	2	44	35	236	1,080
China	16	115	5	42	2	10	25	215	1,320
France	82	427	(2)	14	(2)	4	4	531	2,530
Germany	36	107	3	17	(2)	1	2	166	637
India	3	8	(2)	1	(2)	2	(2)	14	75
Ireland	1	--	1	2	--	7	2	13	21
Israel	10	122	2	3	(2)	(2)	--	137	722
Italy	84	15	(2)	17	(2)	2	2	120	387
Japan	223	51	1	15	2	21	2	315	1,920
Korea, Republic of	7	36	1	33	(2)	(2)	1	78	533
Mexico	(2)	39	18	29	2	80	184	352	1,700
Netherlands	--	3	--	15	--	1	7	26	76
Singapore	2	14	5	5	--	2	3	31	115
Spain	17	4	--	--	--	2	2	25	79
Sweden	--	29	--	19	11	(2)	7	66	202
Switzerland	45	1	2	2	(2)	3	2	55	166
Taiwan	7	11	(2)	10	--	2	8	38	234
United Kingdom	37	243	7	63	(2)	12	14	376	2,090
Other	24	15	15	63	--	40	25	182	1,260
Total	687	1,610	95	394	19	236	326	3,360	17,400
2006: January-May	3,560	8,240	387	1,920	136	1,680	1,520	17,400	XX
2005: January-May	4,800	6,100	660	1,810	39	969	1,420	15,800	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8  
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
June 2006:		
Stainless and heat resisting steels	100	(1)
Alloy steels	100	(1)
Superalloys	98	2
Copper-nickel alloys	96	4
Other nickel-base alloys	100	(1)

<sup>1</sup>Less than ½ unit.

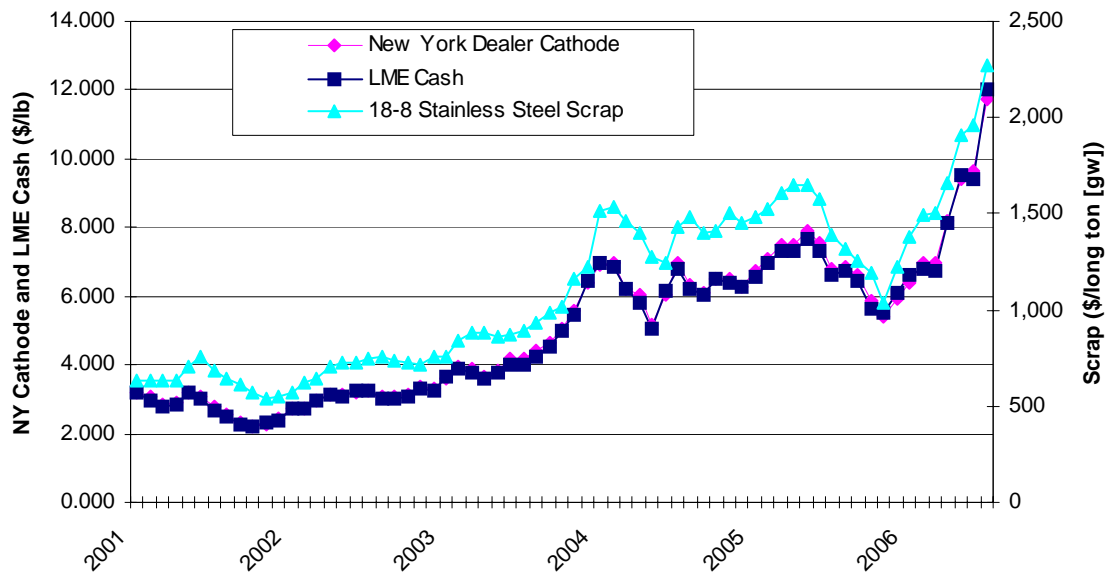
TABLE 9  
NICKEL PRICES

Date	Platts Metals Week				American Metal Market
	Cathode NY Dealer \$/lb.	LME Cash mean <sup>1</sup> \$/t	LME Cash mean <sup>1</sup> \$/lb.	18/8 Stainless steel scrap free market \$/long ton (gw)	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)
2005:					
Average for month of:					
June	7.564	16,154.432	7.328	1,578	1,610
July	6.820	14,570.833	6.609	1,390	1,538
August	6.863	14,886.932	6.753	1,315	1,388
September	6.610	14,223.088	6.451	1,260	1,388
October	5.840	12,396.548	5.623	1,194	1,350
November	5.429	12,111.477	5.494	1,038	1,244
December	5.923	13,425.625	6.090	1,225	1,193
Yearly average	6.814	14,737.960	6.685	1,409	1,469
2006:					
Average for week ending:					
June 2	10.613-10.978	22,566.875	10.236	2,000-2,100	1,800-1,825
June 9	9.796-9.979	21,487.500	9.747	2,000-2,100	2,075-2,100
June 16	8.937-9.980	19,414.000	8.806	1,800-1,850	2,075-2,100
June 23	9.317-9.914	20,091.500	9.113	1,900-1,950	2,075-2,100
June 30	9.656-10.518	21,456.000	9.732	1,925-2,000	2,075-2,100
July 7	10.603-11.477	23,934.500	10.857	2,100-2,200	2,125-2,150
July 14	12.069-13.926	28,182.500	12.783	2,300-2,350	2,125-2,150
July 21	12.021-14.040	27,284.500	12.376	2,275-2,350	2,125-2,150
July 28	12.305-12.928	26,746.000	12.132	2,275-2,350	2,125-2,150
August 4	12.293-13.382	27,816.500	12.617	2,300-2,400	2,125-2,150
August 11	13.110-13.495	28,318.500	12.845	2,300-2,400	2,500-2,525
August 18	13.745-15.650	31,378.000	14.233	2,500-2,600	2,500-2,525
August 25	15.104-16.206	33,674.500	15.274	2,600-2,650	2,500-2,525
Average for month of:					
January	6.408	14,549.643	6.600	1,379	1,275
February	6.944	14,975.000	6.793	1,497	1,387
March	6.949	14,893.043	6.755	1,499	1,493
April	8.184	17,931.806	8.134	1,656	1,531
May	9.425	21,064.524	9.555	1,909	1,813
June	9.664	20,747.045	9.411	1,963	2,088
July	11.750	26,568.571	12.051	2,275	2,138
August	13.808	30,727.955	13.938	2,493	2,419

<sup>1</sup>Mean of the cash buyer price and the cash seller and settlement price.



### 2001-2006 AVERAGE MONTHLY PRICES (Derived from Metals Week and American Metal Market quotations)



### 2001-2006 STOCKS

